Accutek Microcircuit Corporation

AK632256AW
262,144 x 32 Bit CMOS/BiCMOS Static Random Access Memory

DESCRIPTION

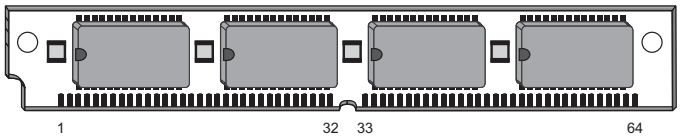
The Accutek AK632256AW SRAM Module consists of eight fast high performance SRAMs mounted on a low profile, 64 pin SIM PCB. The module utilizes four 28 pin 256K x 4 SRAMs in 300 mil SOJ packages and four decoupling capacitor chips mounted on each side of a printed circuit board.

The SRAMs used have common I/O functions and single output enable functions. Also, four separate chip select ($\overline{CE}$) connections are used to independently enable the four bytes. The modules can be supplied in a variety of access time values from 12 nSEC to 45 nSEC in CMOS or BiCMOS technology.

The Accutek module is designed to have a maximum seated height of 0.600 inch to provide for the lowest height off the board. By offset-mounting the back surface SRAMs the module can be mounted in either angled or straight-up SIM sockets. The modules conform to JEDEC standard sizes and pin-out configurations. Using two pins for module memory density identification, PD_0 and PD_1, minimizes interchangeability and design considerations when changing from one module size to another in customer applications.

Top View

64-Pin SIM



FEATURES

- 262,144 x 32 bit organization
- JEDEC Standardized 64 pin SIM format
- Available with solder or gold leads
- Presence Detect PD_0 and PD_1 for identifying module density
- Common I/O, single $\overline{OE}$ functions with four separate chip selects ($\overline{CE}$)
- Low height, 0.600 inch maximum seated height
- Single 5 volt power suppy - AK632256AW
- Single 3.3 volt power supply - AK632256AW/3.3
- Downward compatible with 128K x 32 (AK632128), 64K x 32 (AK63264) and 32K x 32 (AK63232)
- Upward compatible with 512K x 32 (AK632512) and 1 Meg x 32 (AK6321024)
- Fast access times range from 12 nSEC BiCMOS to 45 nSEC CMOS
- TTL-compatible inputs and outputs
- Operating temperature range in free air, 0^0C to 70^0C

ELECTRICAL SPECIFICATIONS

Timing diagrams and basic electrical characteristics are those of the standard 256K x 4 SRAMs used to construct these modules. Accutek's module design allows the flexibility of selecting industry-compatible 256K x 4 SRAMs from several semiconductor manufacturers.

PIN NOMENCLATURE

A_0 - A_{17}	Address Inputs
$\overline{CE}_1$ - $\overline{CE}_4$	Chip Enable
DQ_1 - DQ_{32}	Data In/Data Out
$\overline{OE}$	Output Enable
PD_0 - PD_1	Presence Detect
Vcc	Power Supply
Vss	Ground
$\overline{WE}$	Write Enable

MODULE OPTIONS

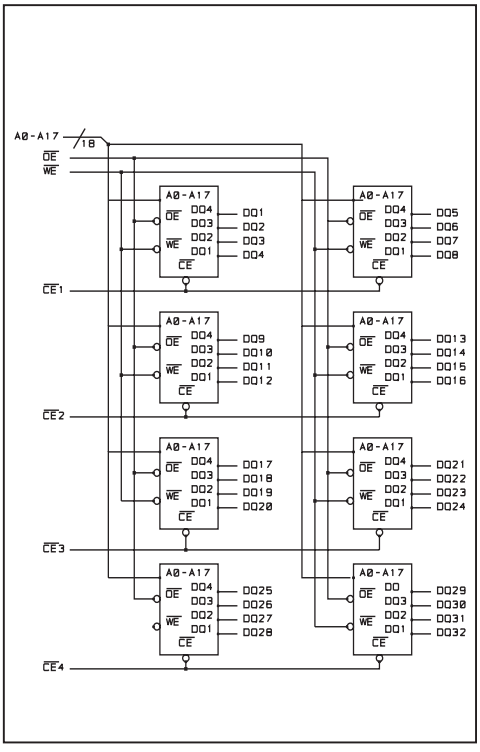
Leadless SIM, Solder Leads: AK632256AW
Leadless SIM, Gold Leads: AK632256AWG

PIN ASSIGNMENT

PIN #	SYMBOL	PIN #	SYMBOL	PIN #	SYMBOL	PIN #	SYMBOL
1	Vss	17	A2	33	$\overline{CE}4$	49	A4
2	PD0	18	A9	34	$\overline{CE}3$	50	A11
3	PD1	19	DQ13	35	A17	51	A5
4	DQ1	20	DQ5	36	A16	52	A12
5	DQ9	21	DQ14	37	$\overline{OE}$	53	Vcc
6	DQ2	22	DQ6	38	Vss	54	A13
7	DQ10	23	DQ15	39	DQ25	55	A6
8	DQ3	24	DQ7	40	DQ17	56	DQ21
9	DQ11	25	DQ16	41	DQ26	57	DQ29
10	DQ4	26	DQ8	42	DQ18	58	DQ22
11	DQ12	27	Vss	43	DQ27	59	DQ30
12	Vcc	28	$\overline{WE}$	44	DQ19	60	DQ23
13	A0	29	A15	45	DQ28	61	DQ31
14	A7	30	A14	46	DQ20	62	DQ24
15	A1	31	$\overline{CE}2$	47	A3	63	DQ32
16	A8	32	$\overline{CE}1$	48	A10	64	Vss

PD_0 = Vss
PD_1 = Vss

FUNCTIONAL DIAGRAM



ORDERING INFORMATION

PART NUMBER CODING INTERPRETATION

Position	1	2	3	4	5	6	7	8

1 Product

AK = Accutek Memory

2 Type

4 = Dynamic RAM
5 = CMOS Dynamic RAM
6 = Static RAM

3 Organization/Word Width

1 = by 1 16 = by 16
4 = by 4 32 = by 32
8 = by 8 36 = by 36
9 = by 9

4 Size/Bits Depth

64	= 64K	4096	= 4 MEG
256	= 256K	8192	= 8 MEG
1024	= 1 MEG	16384	= 16 MEG

5 Package Type

G = Single In-Line Package (SIP)
S = Single In-Line Module (SIM)
D = Dual In-Line Package (DIP)
W = .050 inch Pitch Edge Connect
Z = Zig-Zag In-Line Package (ZIP)

6 Special Designation

P = Page Mode
N = Nibble Mode
K = Static Column Mode
W = Write Per Bit Mode
V = Video Ram

7 Separator

- = Commercial 0^0C to +70^0C
M = Military Equivalent Screened (-55^0C to +125^0C)
I = Industrial Temperature Tested (-45^0C to +85^0C)
X = Burned In

8 Speed (first two significant digits)

DRAMS		SRAMS	
50	= 50 nS	8	= 8 nS
60	= 60 nS	10	= 10 nS
70	= 70 nS	12	= 12 nS
80	= 80 nS	15	= 15 nS

The numbers and coding on this page do not include all variations available but are show as examples of the most widely used variations. Contact Accutek if other information is required.

EXAMPLES:

AK632256AWG-12

256K x 32, 12 nSEC SRAM Module, SIM Configuration with Gold Leads

AK632256AW-15

256K x 32, 15nSEC SRAM Module, SIM Configuration with Solder Leads

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MECHANICAL DIMENSIONS

Inches